

AMENDMENTS TO THE CLAIMS

The following listing of claims, in which added text is underlined and deleted text is stricken through, will replace all prior versions and listings of claims in the application.

1. (Currently amended) A method of stimulating axonal outgrowth of neurites comprising ~~directly~~-contacting a target living neuron or live neuronal area with a solution of ~~the~~ a metallothionein isoform MT-IIA selected from the group consisting of MT-I, MT-II and synthetic forms thereof so as to deliver a sufficient amount of said metallothionein to stimulate said outgrowth of neurites.

2. (Canceled)

3. (Currently amended) A method according to claim 1 wherein said MT-IIA is ~~naturally-occurring~~ human MT-IIA.

4. (Currently amended) A method according to claim 1 wherein said MT-IIA is produced by chemical synthesis or by production in genetically manipulated cells or organisms.

5. (Currently amended) A method according to claim 4 wherein said MT-IIA is recombinant human MT-IIA.

6. (Previously presented) A method according to claim 1 wherein said solution has a concentration of up to about 5 µg/ml metallothionein in a neurologically acceptable carrier.

7. (Original) A method according to claim 6 wherein said solution has a concentration of about 5 µg/ml metallothionein in solution.

8. (Currently amended) A method according to claim 1 further comprising including exposing said neuron or neuronal area to at least one additional metallothionein isoform any one or a combination of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-III and MT-IV.

9. (Currently amended) A method according to claim 8 wherein said target neuron or neuronal area is exposed simultaneously to a combination of MT-IIA and any one or a combination of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-III and MT-IV.

10. (Currently amended) A method according to claim 8 wherein said target neuron or neuronal area is exposed sequentially to a combination of MT-IIA followed by any one or a combination of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-III and MT-II.

11. (Currently amended) A method according to claim 8 wherein said target neuron or neuronal area is exposed sequentially to a combination of any one of metallothionein isoforms selected from the group consisting of MT-I, MT-II, MT-IIA, MT-III and MT-IV.

12. (Previously presented) A method according to claim 11 wherein said neuron or neuronal area is located in the brain.

13. (Previously presented) A method according to claim 1 wherein said solution is administered to said neuron or neuronal area by direct injection, intraperitoneal injection.

14. (Previously presented) A method of treatment of Alzheimer's Disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

15. (Previously presented) A method of treatment of Parkinson's Disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

16. (Previously presented) method of treatment of motor neuron disease comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

17. (Previously presented) A method of treatment of head injury comprising administration to a patient in need of treatment a therapeutic composition including metallothionein in accordance with the method of claim 1.

18-27. (Canceled)

28. (New) The method of claim 1, wherein the solution is applied directly to exposed neurites.

29. (New) The method of claim 1, further comprising measuring neurite growth after contacting with the solution.